CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No: CTCE/BMSP/W.No03/KRIDL/CEMENT/2013-14 Date: 26.02.2014

TEST REPORT

CLIENT	:	Asst. Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
AGENCY	:	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Attur Ward No.03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
REFERENCE	:	BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

SLNo	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-1989
1	Standard Consistency	IS-4031 (Part -4)	31.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	155 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	490 Minutes	Not More than 600 Minutes
3	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm

Note:

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VISHWANATH .C
Quality Manager

#2014, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Lab No: CTCE/BBMP/WNo 03/KRIDL/SAND/2013-14 : 26.02.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : Asst. Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.

Agency : Technical Manager (West), KRIDL, Bangalore.

Name of Work : Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Arrur Ward No 03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.

Reference : BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014

Date of Testing : 26.02.2014

Material : Sand Total Wt. of Aggregates in gms 2000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	82	4.10	4.10	95.9	90-100
2.36	215	10.75	14.85	85.2	75-100
1.18	390	19.50	34.35	65.7	55-90
600 Micron	415	20.75	55.10	44.9	35-59
300 Micron	602	30.10	85.20	14.8	8-30
150 Micron	205	10.25	95.45	4.6	0-10

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Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Lab No: CTCE/BBMP/WNo03/KRIDL/AGG/2013-14 : 26.02.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : Asst. Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.

Agency : Technical Manager (West), KRIDL, Bangalore.

Name of Work : Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Amur Ward No.03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.

Reference : BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014

Date of Testing : 26.02.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms 26000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	1020	3.92	3.92	96.08	95-100
20	16855	64.83	68.75	31.25	30-70
10	5026	19.33	88.08	11.92	10-35
4.75	2235	8.60	96.68	3.32	0-5

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Quality Manager

#2014, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com

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Job No: CTCE/BBMP/WNo03/KRIDL/WMM/Gradation/2013-14

10.04.2014

GRADATION FOR WMM
MORTH TABLE-400-II

Client : **Asst. Executive Engineer,** Yelahanka Satellite Town Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West), KRIDL,** Bangalore.

Name of Work : Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Attur Ward No.03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.

Reference : BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014

Date of Testing : 10.04.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 26200

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	900	900	3.4	96.6	95-100
22.4	6210	7110	27.1	72.9	60-80
11.2	5865	12975	49.5	50.5	40-60
4.75	4170	17145	65.4	34.6	25-40
2.36	3250	20395	77.8	22.2	15-30
0.600	2240	22635	86.4	13.6	8-22
0.075	2040	24675	94.2	5.8	0-8

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VISHWANATH .C
Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ja@civiltechconsultants.com, info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.03/KRIDL/BM/Bitumen/2013-14 23.04.2014

BITUMEN CONTENT DETERMINATION OF BITUMINOUS MACADAM MIX

AASHTO T 164

CLIENT	Assr. Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Attur Ward No.03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014
SAMPLE I/D	Road in G. Ramaiah Layout in Attur Ward No.03,BBMP, Bangalore.
DATE OF TESTING	23.04.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	482.5	482.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	17.5	17.50
7. Bitumen content in %	3.50	3.50
8. Average	3.50	

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VISHWANATH .C
Quality Manager

#23(14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23220227, Website : www.civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.03/KRIDL/BM/Bitumen/2013-14 23.04.2014

BITUMEN CONTENT GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

AASHTO T 30

CLIENT	Asst. Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Amur Ward No.03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014
SAMPLE I/D	Road in G. Ramaiah Layout in Amur Ward No.03,BBMP, Bangalore.
DATE OF TESTING	23.04.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	29.38	6.08	6.08	93.92	90-100
13.2	96.25	19.95	26.03	73.97	56-88
4.75	264.1	54.74	80.77	19.23	16-36
2.36	59.63	12.36	93.12	6.87	4-19
0.3	12.25	2.54	95.67	4.33	2-10
0.075	5.23	1.08	96.75	3.25	0-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	26.2	5.43	5.43	94.57	90-100
13.2	91.25	18.91	24.34	75.66	56-88
4.75	261.6	54.20	78.54	21.46	16-36
2.36	62.35	12.92	91.46	8.54	4-19
0.3	25.36	5.26	96.72	3.28	2-10
0.075	3.25	0.67	97.39	2.61	0-8

AE 2.3

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VISHWANATH .C
Quality Manager

#23|14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.jc@civiltechconsultants.com, info@civiltechconsultants.com

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Job No: CTCE/BBMP/W.No.03/KRIDL/BC/Bitumen/2013-14 25.04.2014

GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

As Per IS 2386 and IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Improvements of balance roads and drilling of borewells in G. Ramaiah Layout in Amur Ward No.03 of Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/AEE/YSSD/475/2013-14 Dated: 12.02.2014
SAMPLE I/D	Road in G. Ramaiah Layout in Amur Ward No.03,BBMP, Bangalore.
DATE OF TESTING	25.04.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	45.28	9.53	9.53	90.47	79-100
9.5	32.25	6.79	16.32	83.68	70-88
4.75	82.15	17.29	33.62	66.38	53-71
2.36	88.56	18.64	52.26	47.74	42-58
1.18	43.25	9.11	61.37	38.63	34-48
0.6	33.26	7.00	68.37	31.63	26-38
0.3	29.14	6.13	74.50	25.50	18-28
0.15	37.14	7.82	82.32	17.68	12-20
0.075	53.62	11.29	93.61	6.39	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	56.24	11.84	11.84	88.16	79-100
9.5	30.25	6.37	18.21	81.79	70-88
4.75	70.12	14.76	32.97	67.03	53-71
2.36	90.25	19.00	51.97	48.03	42-58
1.18	41.25	8.68	60.65	39.35	34-48
0.6	38.22	8.05	68.70	31.30	26-38
0.3	25.65	5.40	74.10	25.90	18-28
0.15	34.22	7.20	81.31	18.69	12-20
0.075	53.22	11.20	92.51	7.49	4-10

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VISHWANATH .C
Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ct@civiltechconsultants.com, info@civiltechconsultants.com